THE
VETERINARY JOURNAL

OCTOBER, 1926.

Editorial

OUR YOUNG GRADUATES AND THE GOVERNMENT SERVICES.

THE young graduate who has no wish to take up private practice naturally turns his attention to some appointment either in the Army or in the Government Service at home or abroad.

In the August issue of the VETERINARY JOURNAL we published articles by Colonel Reid and Professor Mettam, dealing respectively with the Veterinary aspect in New Zealand and South Africa, and we shall return to the subject at a later date in the form of a Special Colonial Number. As the Army rates of pay have recently been revised, and there is some room for doubt as to whether all ranks have benefited thereby, and also as to whether the officers of the R.A.V.C. have received fair consideration as compared with their confrères in the R.A.M.C. and Army Dental Corps, we are publishing as our first general article the full details of the rates of pay in each case. These tables certainly appear to clearly show that although the pay and prospects of subaltern and captain have been improved, the position of the Veterinary officer of field rank has been dealt with in a very indifferent and unfair manner, when compared with that of the R.A.M.C. and the Army Dental Corps—and the latter is only a very recent recruit to the Service and a comparatively small body in proportion to the others. As member of the whole organisation, an Army officer whatever department he belongs to, has the same position to keep up as those with whom he is in daily contact, and it must not be forgotten that the officers of the R.A.V.C. are always attached to cavalry or otherwise mounted units, which generally indicates a more expensive mess and surroundings; so that the question of pay has, *per force*, to be considered. For this reason alone, if for no other, the R.A.V.C. officer should receive at any rate equal, if not special, consideration at the hands of the Authorities.

It is a matter which has no doubt already been pressed forward by the Director General and by the Officer who has charge of such things on the Army Advisory Board; and it does seem, when read through the eyes of a layman, as if our senior colleagues in the Service

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have room for a genuine " grouse " ; and, as they are unable to take up such complaints themselves, it should be brought up before the respective Councils of the National Veterinary Association and the Royal College. This should not be done as a " personal " matter affecting a comparative few just at the moment, but as an invidious distinction which should never have been allowed to be made, and one which will materially react presently upon the Army itself in preventing the presentation for the Service of the best and most fitted class of officer recruit.

Our second general article deals with the rates of pay and present position and prospects of the Veterinary officials of the Ministry of Agriculture, and it will be seen that the agitation for better pay and promotion, which has always received the strongest possible support from the VETERINARY JOURNAL, has at last resulted in something beneficial. Although we would like to see the initial salary stabilised and not dependent upon the Government bonus, the prospects (now that the influence of the " lay inspector " side of the Department has been done away with) are fairly good for a young graduate who selects this class of work as his future career. Different men have different ideas, and it is well for our younger men that a profession such as ours gives selection, after qualifying, as to the sphere in which one can choose to work and live.

General Articles

THE NEW RATES OF PAY FOR OFFICERS OF THE R.A.V.C.—" AN IRISHMAN'S RISE ! ! "

OUR readers will no doubt have noted articles in the press recently dealing with the new rates of pay of medical, dental and veterinary officers of the Army, which came into force on July 1st last. As far as officers of the R.A.V.C. are concerned, these appear to have given rise to a considerable amount of dissatisfaction.

In the first place, although some long overdue alterations have been made in the terms of service and promotion, as for example, the promotion of lieutenants to captain after 3½ years, instead of 5 years as heretofore, these are completely nullified by the fact that it has been considered fit to reduce the rate of remuneration in the rank of major. This is the more remarkable in that in neither the medical or dental branches has any reduction in pay in any rank been effected, almost every rank, indeed, showing a material increase over the old rates. We confess we are at a loss to understand the mentality of a Government Department which deliberately gives with one hand, only to take away with the other.

In practice the improvement in terms of service of lieutenants, although it reads well on paper, affects but a very small minority of the Corps. The reduction in rates of remuneration in the rank of major, however, will affect a very large number of officers; and actually, as a whole, the Corps loses very considerably through the operation of this new order in the immediate future.

The second aspect of the case is one of special interest, and one which we understand is no less distasteful to our military confrères than the foregoing. It is also not without interest and significance to other members of our profession in other Government departments.

There has always been a discrepancy in the rate of remuneration of Medical and Veterinary Officers of the Army, in the higher ranks particularly. That this is only fair and reasonable we readily admit when it is remembered how much greater are the responsibilities of a medical officer when he attains field rank. Under these new rates of pay, however, the gap between these is now widened to an altogether unfair and unreasonable extent. Further, the rates of dental officers have been revised, so that they very nearly approach those of medical officers, the officers of the R.A.V.C. only being left completely in the background.

We do not propose to criticise the improvement that accrues to the R.A.M.C. under these new terms beyond stating that we, in common with most others, believe that some such improvement was more than due. We do, however, very strongly criticise the excuse that such amendment has furnished for further widening the gap between them and officers of the R.A.V.C. on the pay question. The discrepancy is even more marked in the case of Dental and Veterinary officers. We understand that the Army Dental Corps owes its very favourable improvement in conditions of pay and service to its close association with the R.A.M.C., who have kept an eye on its interests at the same time as their own. On no grounds whatever can the present wide disparity in rates of remuneration of Dental and Veterinary Officers be justified, and certainly not on purely military and economic. The Army Dental Corps is a new one. For years the Army has been able to take the field quite successfully without a Dental Corps, and even to-day it is not represented in the Territorial Army at all except as a War Establishment cadre on paper. The R.A.V.C., on the other hand, is an integral part of the field army, and its officers should be remunerated for their services on a scale in fair proportion to that offered to other technical personnel. We trust that this matter will receive the attention of the National Veterinary Association Council, as it looks remarkably like "An Irishman's

Rise" ! ! ! *especially as the officer who has joined the R.A.V.C. since October, 1925, comes under a lower rate of pay than his confrère who joined prior to that date.*

MINISTRY OF AGRICULTURE AND FISHERIES.

Memorandum on the Inspectorate of the Diseases of Animals Division.

There are at present 1 Chief Veterinary Officer, £1,000, rising by £50 p.a. to £1,200 ; 1 Deputy Chief Veterinary Officer, £800, rising by £25 p.a. to £1,000 ; 1 Chief Superintending Inspector, £600, rising by £25 p.a. to £800 ; with an allowance of £100 p.a. 8 Superintending Inspectors, £600, rising by £25 p.a. to £800 ; 30 Divisional Inspectors, £450 rising by £20 p.a. to £600 ; 65 Inspectors (of whom 20 must be non-established), £250 rising by £15 p.a. to £450.

Except for the 20 non-established inspectors, these are established and pensionable posts, and in every case the salary mentioned carries, in addition, Civil Service bonus at the rates applicable from time to time. The cost-of-living figure on which the bonus is assessed is reviewed on the 1st of March and the 1st of September in each year, on the average of the preceding six months. The present rates of bonus are, approximately ; £111 on a basic salary of £250 ; £160 on a basic salary of £450 ; £176 on a basic salary of £600 ; £195 on a basic salary of £800 ; £205 on a basic salary of £1,000.

Vacancies in the higher grades are normally filled by promotion, and the resulting vacancies in the grade of inspector (non-established) are advertised in the Press.

Candidates for appointment must comply with certain regulations laid down by the Civil Service Commissioners, but the main qualifications are that the applicant shall be a natural-born British subject, between the ages of 21 and 32, a member of the Royal College of Veterinary Surgeons, and shall not have been exempted from service in H.M. Forces during the late war on the ground of conscientious objections, or declined to serve on such grounds.

Preference is given to those who have had service in H.M. Forces, and candidates may deduct from their actual age any period so spent during the late war.

Selected candidates are required to attend, at their own expense, before a Selection Board in London, who will recommend the candidate (or candidates if there is more than one vacancy) whom they consider most suitable for appointment by the Ministry. The successful candidate must take up duty at his own expense, at the station chosen by the Ministry.

A fee of £4 is payable to the Civil Service Commissioners by a successful candidate, who must also satisfy the Commissioners as to his character and his eligibility under the Regulations. Thereafter, he is placed on two years' probation, after which he is required to pass an examination before he can be considered for appointment to the established staff.

It is of interest to note that inspectors who hold the Diploma of Veterinary State Medicine of the Royal College of Veterinary Surgeons may be exempted from examination in pathology and bacteriology, and that the Ministry is prepared to consider applications for study leave from other inspectors, for the purposes of this examination.

If, after passing this examination, an inspector is selected for appointment to the established staff, he must pay to the Civil Service Commissioners a fee of £4 (*i.e.*, he pays £8 in all, in addition to the doctor's fee for medical examination) before they can issue the necessary certificate of qualification. From the date of this he enters on another period of probation, the minimum being one year, before his final appointment to the Public Service. His service for pension or gratuity is, however, then reckoned from the date of his first appointment.

There are certain conditions of service which an inspector agrees to observe by accepting appointment. These are set out as an Appendix to the Regulations for Appointment, and some of them have already been mentioned above. It is important to realise that the choice of station and the duration of an inspector's stay at any station, are matters entirely within the Ministry's discretion.

Subsistence and travelling allowances are granted to meet disbursements, in accordance with the Ministry's regulations, and the grade of inspector carries an allowance of 30 working days leave annually, whether unestablished or established, rising to 36 days when the basic salary exceeds £300. Divisional and higher grades are entitled to 48 days' annual leave after having been ten years in a grade eligible for 36 days.

Fuller details of the Conditions of Service, etc., can be obtained upon application to the Secretary.

Army Orders—June, 1926

Published on 29th June, 1926.

ROYAL WARRANTS.

PAY, ETC., ROYAL ARMY MEDICAL CORPS, ARMY DENTAL CORPS AND ROYAL ARMY VETERINARY CORPS. **A.O.196. 1926.**

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GEORGE R.I.

WHEREAS WE deem it expedient to make certain increases in the rates of pay and retiring gratuities and to improve the conditions of promotion and retirement of officers of Our Royal Army Medical Corps, Our Army Dental Corps and Our Royal Army Veterinary Corps;

OUR WILL AND PLEASURE IS that with effect from 1st July, 1926, the rates and conditions of service at present laid down for officers of the above-mentioned corps shall be amended as follows:—

1. The rates of pay of officers shall be amended as follows:—

ROYAL ARMY MEDICAL CORPS.

Old Rates.	£ s. d.	New Rates.	£ s. d.
Lieutenant	1 2 0	Lieutenant	1 2 0
Captain	1 7 0	Captain	1 7 0
Captain, after 6 years' commissioned service	1 8 0	Captain, after 8 years' commissioned service	1 10 0
Captain, after 10 years' commissioned service	1 11 0	Captain, after 10 years' commissioned service	1 12 6
Major	1 15 0	Major	1 17 6
Major, after 15 years' commissioned service	2 0 0	Major, after 15 years' commissioned service	2 2 6
		Major, after 18 years' commissioned service	2 5 0
		Major, after 20 years' commissioned service	2 10 0
Lieutenant-colonel	2 10 0	Lieutenant-colonel	2 17 6
Lieutenant-colonel after 20 years' commissioned service	2 12 6	Lieutenant-colonel after 3 years' service as such ..	3 2 6
Lieutenant-colonel, after 25 years' commissioned service	2 15 0		
Colonel	3 5 0	Colonel	3 10 0
Major-General	4 15 0	Major-General	4 15 0
Director-General	£2,500 a year.	Director-General	6 0 0 (plus lieutenant-general's allowances).

ARMY DENTAL CORPS.

Old Rates.	£	s.	d.	New Rates.	£	s.	d.
Lieutenant	1	0	0	Lieutenant	1	0	0
Captain	1	5	0	Captain	1	5	0
Captain, after 6 years' commissioned service	1	6	6	Captain, after 8 years' commissioned service	1	8	0
Captain, after 10 years' commissioned service	1	8	6	Captain, after 10 years' commissioned service	1	10	0
Major	1	13	0	Major	1	15	0
Major, after 15 years' commissioned service	1	18	0	Major, after 15 years' commissioned service	2	0	0
				Major, after 18 years' commissioned service	2	2	6
				Major, after 20 years' commissioned service	2	7	6
Lieutenant-colonel	2	7	6	Lieutenant-colonel	2	15	0
Lieutenant-colonel, after 20 years' commissioned service	2	10	0	Lieutenant-colonel, after 3 years' service as such ..	3	0	0
Lieutenant-colonel, after 25 years' commissioned service	2	12	6				
				Colonel	3	7	6

ROYAL ARMY VETERINARY CORPS.

Old Rates.	£	s.	d.	New Rates.	£	s.	d.
Lieutenant	1	0	0	Lieutenant	1	0	0
Captain	1	5	0	Captain	1	5	0
Captain, after 2 years' service as such	1	7	6	Captain, after 4½ years' service as such	1	7	0
				Captain, after 6½ years' service as such	1	9	0
Major	1	13	0	Major	1	11	0
Major, after 5 years' service as such	1	19	0	Major, after 3 years' service as such	1	13	0
				Major, after 6 years' service as such	1	16	0
				Major, after 8 years' service as such	1	19	0
Lieutenant-colonel	2	9	0	Lieutenant-colonel	2	9	0
				Lieutenant-colonel, after 3 years' service as such ..	2	10	0
Colonel	2	15	0	Colonel	2	15	0

2. A captain in Our Army Dental Corps shall be eligible for promotion to the rank of major after 12 years' commissioned service in the corps, provided that he has qualified in such manner as may be prescribed by Our Army Council. Similarly an officer of Our Royal Army Veterinary Corps shall be eligible for promotion to captain after 3½ years' service as a veterinary officer (instead of 5 years as at present laid down), and to

major after 8½ years' service in the rank of captain (instead of after 10 years service in the rank of captain as at present laid down).

3. An officer of Our Royal Army Medical Corps employed at the War Office as Assistant Director-General, Assistant Director or Deputy-Assistant Director-General shall receive additional pay at 5s. a day instead of 2s. 9d. as at present provided.

4. The rate of additional pay for officers of Our Royal Army Medical Corps appointed to act as specialists shall be increased to 5s. a day for all subjects.

5. The officer of Our Army Dental Corps appointed to the charge of the Dental Laboratories, Aldershot, shall receive charge pay at the rate of 5s. a day if holding the rank of captain, or 2s. 6d. a day if holding the rank of major.

6. An officer of Our Royal Army Medical Corps commissioned after holding a resident appointment of not less than 1 year in a civil hospital, may be granted an antedate not exceeding 1 year in respect of the period spent in such an appointment provided that the interval between the termination of the hospital appointment and the date of entry into the service shall not ordinarily exceed 6 months. This antedate will count as commissioned service for the purpose of increments of pay, promotion, retirement, retired pay and retiring gratuities.

7. An officer of Our Royal Army Medical Corps shall be eligible to retire with a gratuity of £1,000 after 7 years' service instead of after 8½ years', and an officer of Our Royal Army Veterinary Corps shall be eligible to retire with a gratuity of £800 after 7 years' service, of £1,800 after 15 years' service, and £2,500 after 18 years' service, instead of with £1,000 after 10 and with less than 20 years' service.

An officer of Our Royal Army Medical Corps who, after 3 years' service as a major is eligible to retire with a gratuity of £1,800 or after 6 years' service as a major with a gratuity of £2,500, shall be eligible to retire with £2,800 in lieu of £1,800 and £3,500 in lieu of £2,500.

An officer of Our Army Dental Corps shall be eligible to retire after 15 years' service as a dental officer with a gratuity of £2,000 instead of £1,800, and after 18 years' service with a gratuity of £3,000 instead of £2,500.

8. An officer serving as a medical officer in Our Royal Army Medical Corps on 13th September, 1919, shall be eligible on retirement as a major after 20 years' service for retired pay at a daily rate of £1 if more favourable to him than the rate assessed under the ordinary scale for medical officers.

An officer who has retired as a major since 13th September, 1919, after completing 20 years' service shall be entitled to benefit under this provision with effect from the date of retirement;

OUR FURTHER WILL AND PLEASURE IS that in any case in which transfer from the rates of pay hitherto in force to the new rates involves a loss of emoluments, the officers may continue in receipt of the rates of pay hitherto in force until such time as, on account of increment or promotion, the new rates are equal to or exceed the old rates;

IT IS OUR FURTHER WILL AND PLEASURE that the revised rates of pay and additional pay (but not charge pay) sanctioned in this Our Warrant shall be subject as from 1st July, 1926, to the deduction of 5½ per

cent. which was made to the old rates as from 1st July, 1924, and shall further be subject to revision in respect of subsequent variation in the cost of living, in the same manner and to the same extent as the rates introduced from 1st July, 1919;

LASTLY IT IS OUR WILL AND PLEASURE that with effect from 1st July, 1926, the amendments contained in the Schedule attached to this Our Warrant shall be made to Our Warrant for the Pay, Appointment, Promotion and Non-Effective Pay of Our Army dated 12th March, 1926.

Given at Our Court at St. James's, this 29th day of June, 1926, in the 17th year of Our Reign.

By His Majesty's Command,

L. WORTHINGTON-EVANS.

TECHNICAL EDUCATION FOR THE MEAT TRADE.

BY D. J. ANTHONY, M.R.C.V.S., D.V.S.M.,
Veterinary Inspector to Messrs. Marsh & Baxter, Ltd., Brierley Hill,

IN all professions a certain standard of education is demanded of aspirants to membership. Trades such as those of the grocers, drapers, etc., have realised the value of education, and have established certain courses of education for the young members of their trade, these courses leading to a diploma granted by the "Governing Body" of the particular trade.

One of the latest recruits under the banner of education is the "meat trade." Under the meat trades education scheme an opportunity is offered to every young man in the trade to undertake a course of study leading to the Diploma of the National Federation of Meat Traders. The course is one of three years' evening study, and lectures will be given in technical institutes at various centres throughout the country every winter, from September to April. Technical institute authorities will be allowed to hold their own examinations for the first and second years, but the third year examination will be the final one for the Meat Traders' Diploma.

One part of the course deals with business organisation. This will include the elements of business economics, current business practice, the cultivation of good English, written and spoken, and a simple but sound system of book-keeping.

The teachers for this part of the course will in the majority of cases be supplied by the various technical schools.

The other portion of the course is the "Commodity Course," and the lecturers in this part will have to be men possessing a knowledge of animal husbandry, hygiene, etc., in addition to a good working knowledge of the meat trade. The syllabus of the course is as follows:

FIRST YEAR.—History of butchers' craft, methods of slaughtering and dressing animals for food. Ageing. Hides and skins and the art of flaying, with trades dependent on hides and skins. Imported meat—imported animals and regulations controlling landing in England. Boning and rolling of meats. Scales and weights. Law—Public Health regulations and Acts.

SECOND YEAR.—Breeds of cattle, sheep and pigs. Sex. Butchers' terms. Elementary anatomy and physiology (internal organs chiefly). Grades of imported meat. Home-killed meat. Cold storage and refrigeration. Cuts of meat. By-products. Curing, sausage making, etc. Hygiene applied to butchers' shops, etc. Window dressing and salesmanship. The customer.

THIRD YEAR.—Revision of first and second years. Diseases—scheduled and non-scheduled. Diseases communicable to man. Putrefactive processes. Relation of live to dressed weights. Retail prices. Comparative value of meat as a food. Shops Act Law. General meat inspection requirements.

From a perusal of this syllabus it will be apparent that the Veterinary Surgeon who is a meat inspector can be of great help to the meat trade, as the training of a Veterinary meat inspector particularly fits him to teach the subjects mentioned above.

To try and educate people who desire to be "left alone"—happy in their lack of knowledge, is by no means an easy matter, and the enthusiasts in the meat trade deserve the wholehearted support of all lovers of education. Veterinary Surgeons who may be called upon to assist in raising the general standard of education in this great trade in human food will, I feel sure, not be behindhand in responding readily to the call. Indeed, it is the duty of the Veterinary Profession to do all in its power to assist the meat traders, if only to show its appreciation of the support given by this great trade to the profession in the realms of meat inspection alone.

NOTE ON THE USE OF DIMOL IN THE TREATMENT OF RHEUMATOID ARTHRITIS.
A STUDY IN COMPARATIVE MEDICINE.

BY D. E. WILKINSON,
Class C., Royal Veterinary College, N.W.1.

HAVING suffered from more or less acute attacks of rheumatism from my boarding school days, the trouble originating from sleeping in a damp bed, and having realised the depressing effects of most

forms of treatment, I readily accepted Capt. Ainslie Walker's suggestion made some three years ago, that I should try Dimol as a preventive, and, if necessary a curative, treatment.

The results have been most gratifying, and I have never since had an acute attack, a few doses of Dimol, on the first symptoms showing themselves, always clearing it up.

The following data in two cases of severe rheumatoid arthritis, one human and the other canine, will show the value of this non-toxic drug in both human and animal clinical practice.

On August 11th, 1924, I was called in to attend a Clumber spaniel dog, about 18 months old. The history given was that he had been treated for some obscure ailment (probably distemper) for a month past, and had suddenly become much worse. The animal showed symptoms of acute rheumatoid arthritis. His stifle joints were much swollen and kept in a constant state of flexion, so that his back was always arched. His pain was so acute that he screamed on being approached and attempted to bite if his stifle joints were lightly touched with the fingers.

As the weather was very wet and his kennel and bedding damp, he was removed into a dry stable. A milk diet, of which he partook readily, was prescribed, and 5 grs. of aspirin in Mucilage of Tragacanth administered three times a day.

The treatment proved a complete failure, and the changes were rung over the whole classic series of anti-rheumatic drugs, salicylates, antacids, iodides, etc., without any amelioration of the symptoms until October 6th, when I put the patient on Dimol. After a few days an improvement was noticed, and on October 15th he was cured. All symptoms of pain had completely disappeared, the swelling of the stifle joints which I had begun to regard as chronic had completely subsided, and the dog ran about freely and was worked with the gun as though he had never been ill.

With regard to the human patient, the success of Dimol was even more marked. The patient was an old hunting friend of mine who, for the past 10 years, has been a complete cripple from rheumatoid arthritis contracted during a very wet Territorial camp. For three years he has been almost a chronic invalid, getting about only in a wheel chair. I never go into his neighbourhood without calling to have a chat with him, and in October last I asked him if he had given up all treatment as hopeless. I knew he had undergone all sorts of anti-rheumatic treatment, including hypropathic, electric baths, massage, a course of brine baths at Droitwich, autogenous vaccines, etc. etc., and had steadily got worse. He replied that he had got tired of all treatments, more especially the salicylates, which made

him feel ill, but which he was obliged to take at times to relieve pain, but that he was still willing to try anything which might be of use. I suggested Dimol to him, explaining its action, and at his request got some for him.

I paid him a visit in the Xmas vacation, and he at once said, " I don't know how to thank you enough for recommending Dimol. I have always dreaded winter coming on, but this winter I have not had an ache or pain. I know it is due to Dimol, because if I leave it off for a few days I am not so well."

At Easter I paid him another visit, and he was then able to walk alone with the aid of a walking stick, for the first time in three years.

In his brochure, " Intestinal Toxæmia in its Relationship to Rheumatic Diatheses," Ainsiie Walker cites the following quotations :

" The determining factor in the evolution of many cases of rheumatoid arthritis is infection of the upper alimentary tract with pyogenic staphylococci."—MUTCH, *Amer. Med.*, June, 1915.

" Toxic absorption from the alimentary tract probably constitutes the commonest mode of origin of osteoarthritis."—*The Lancet*, July 8th, 1922.

" Very few medical men now doubt that most forms of arthritis, including rheumatoid arthritis, are due to the absorption of toxins, and many of these can be directly attributed to intestinal toxæmia. . . . The condition so often described as arthriticism or the arthritic diathesis is in reality synonymous with intestinal toxæmia."—BRYCE, Intestinal Toxæmia.

" Many cases of rheumatoid arthritis improve markedly under treatment directed against intestinal toxæmia ; namely, the prevention of the formation, the decrease of absorption, increase in the elimination or increase in the destruction of toxins."—SUTTER, N.Y. *Med. Jour.*, Feb. 24th, 1912.

" The alimentary tract may be a cesspool of sepsis—flatulence, chronic constipation, diarrhœa . . . and may be the primary cause of the arthritis."—WHITCHURCH-HOWELL, *The Practitioner*, Sept., 1924.

Certainly the frequency with which rheumatoid affections follow upon the lowered vitality resulting from exposure to wet and cold, and from debilitating illnesses such as influenza and distemper, suggest the advisability of protecting our patients against intestinal toxæmia. Purgatives for this purpose are often inadvisable, and the non-toxicity of Dimol renders it an ideal intestinal antiseptic.

Clinical Articles

FOUR INTERESTING TUBERCULOUS CASES WITH DIFFERENT SYMPTOMS.

By Wm. G. FORBES and F. McD. McKENZIE, M.R.C.V.S.,
Kilmarnock.

I. Ayrshire Cow in Milk.

Developed gradual stiffness of the neck, attributed by the attendant to a fall which had been observed. Within a fortnight swelling of the vertebræ could be detected about the middle of the neck—bi-lateral. Stiffness increased until, when the food was placed in the trough, the animal took from 10 to 15 minutes to get her head down, and, after finishing her ration, it took her about the same length of time to get the head erect again. She kept her condition, which was good, and the owner was at first very loth to slaughter but ultimately gave his consent.

Diagnosis.—Most likely tuberculosis.

Post-Mortem.—Large tubercule about the size of a bantam's egg involving the body of the bone—bi-lateral. With the exception of slight deposit in the mediastinal glands there was no evidence of tuberculous disease elsewhere.

II. Ayrshire Cow in Milk.

This animal, which was in excellent condition, was first observed to be affected with what appeared to be an attack of " staggers " without pronounced delirium. The stomach was undoubtedly impacted, bowels constipated, and the gait swinging or staggering.

The dietetic condition yielded to treatment, but the involved co-ordination was still evident, although the patient could lie and rise without much difficulty. Improved generally until nothing unusual could be observed, except the " swing."

Diagnosis.—Tuberculosis of spine.

Post-Mortem.—In this case the lesion was exactly of same type as in previous case, but was situated behind the withers—in the region where a saddle would sit on a horse.

III. Ayrshire Cow in Milk.

A cow about 10 years old, in fair condition, had a slight attack of what was presumed to be colicky pains and reacted to treatment. She milked and fed all right for a week, although incoordinate in gait when walking, after which she took a bad attack of staggers, and when seen, was lying on her side kicking. She reacted to treatment, and in four days was feeding and milking as well as she had done previous to attack, but was unable to rise. She was lifted to her feet by means of a rope pulley, and stood all right for a few hours, and when wanting

to lie down, she practically fell. The cow remained in this condition for a fortnight, the partial paralysis being completely confined to the hind legs, and the left hind worse than the right. After this time the owner decided to have the animal killed, and *post-mortem* showed one large tubercle on the fourth dorsal vertebra pressing on the cord where there was slight local meningitis. The only other lesions were one bronchial and one mediastinal gland affected with tubercle.

IV. Ayrshire Cow in Milk.

Six years and in good condition. The owner had noticed for a month or six weeks previous to seeking advice that the cow was not moving very well behind, and when seen, the gait was decidedly swinging. Pulse and temperature normal; feeding and milking well.

Diagnosis.—Pressure on the cord either by tumour or tubercle, or perhaps a lesion, the result of an injury.

Post-Mortem.—One large tubercle on the second lumba vertebra, and the only lesion on the carcase.

REPORT OF A CLINICAL CASE.

By H. LLEWELLYN JONES, M.R.C.V.S.,
Denbigh.

In January last I was requested to treat about 30 young bullocks and heifers—from 10 to 15 months old—for husk. Amongst them was a white heifer, in poor condition, suffering from dyspnœa.

Being small and weedy, her mouth was too narrow to admit my hand for pharyngeal exploration. Externally, there were no enlarged glands to be seen or felt. Moreover, the type of breathing indicated that the seat of trouble was in the larynx. It was not a "roar," but more like a "whistle." No particular attention was attached to this at the time, and she received an intra-tracheal injection like the rest of them. About 9 or 10 days afterwards I was asked to go there at once as the heifer was on the point of suffocating. I took a small temporary tracheotomy tube with me, which I had to insert without losing much time, as she was almost on the point of dying. The insertion of the tube brought the necessary relief. The usual after treatment was carried out—viz., the tube was cleaned daily and replaced. Occasionally she would breathe quite well when the hand was firmly placed over the operation wound; at other times she would become greatly distressed. This rather puzzled me, and I sometimes thought it might be due to a polypus—but I expressed a somewhat guarded opinion that it was due to sudden spasms of the muscles of the larynx.

One night she managed to remove the tube by rubbing against something, and the owner was surprised to see her next morning with

the tube hanging round her neck, but breathing almost naturally. She drank plenty of water and enjoyed her food, and continued to do so for three days—when suddenly, on the yard, she again developed alarming symptoms. Again I was sent for and I had to re-open the wound and place the tube in once more, and continue with the usual treatment until one night the tube came out again, and much to our surprise, the animal breathed freely, with only very slight noise. She would chew her cud, drink and eat well, but one morning she was found dead in her box.

POST-MORTEM FINDINGS.—Nasal cavities normal; pharyngeal muc. membrane slightly inflamed, and so were the glands. The lining of the larynx was acutely inflamed and at the base of each of the arytenoid cartilages—on the postero-inferior area as one looks through the glottis—was a well-defined ulcer, the size of a sixpence, with rather angry-looking raw surfaces. Prior to making a longitudinal incision on the upper surface of the larynx, these two ulcers were actually adherent. These, in my opinion, were the cause of the trouble, but I cannot satisfactorily explain to myself the spasmodic appearance of the symptoms, unless the adhesions between these two raw surfaces periodically broke down and thus afforded relief.

The mucous membrane of the trachea was also acutely inflamed—no doubt brought about by the presence of the tube. Bronchitis and localised areas of pneumonia were also present. Abdominal organs were normal.

It was my intention to send the larynx away for microscopical examination, but a spaniel of mine with an extraordinary "nose" for pathological specimens, retrieved it from my car and, I fancy, buried it secretly in his own little cemetery. I was thus foiled by a "dirty dog" from finding out the pathological nature of the lesions. Most probably they were tuberculous, but if they were, one would rather expect to find other unmistakable macroscopic lesions in some other parts of the body, but such was not the case.

Any enlightenment, criticisms, suggestions or discussions, would make these cases still more interesting.

ANTHRAX SPORES CAUSE INFECTION FROM A GRAVE AFTER TWENTY-FOUR YEARS.

PROFESSOR S. H. GAIGER, F.R.C.V.S.,
Department of Veterinary Pathology, University of Liverpool.

THE following example of infection of a bullock with anthrax from the falling in of the grave of an anthrax bullock buried 24 years previously, seems worthy of being placed on record.

In 1901 four or five cattle grazing on permanent pasture died of anthrax. All were buried in quicklime, the field was treated with four tons of shell lime per acre, and no cattle were grazed there for the next eight years, after which grazing of the field was re-commenced. No deaths occurred from anthrax till the autumn of 1925, when one bullock died of the disease. A few days previously one of the 1901 graves fell in sufficiently to expose the old lime, and it seems reasonable to infer that this grave was the source of infection in the 1925 case. No artificial foods or manures had been used.

CONTAGIOUS VAGINITIS IN SHEEP.

By L. B. A. GRACE, M.R.C.V.S., D.V.S.M.,
Glasgow.

WHILST acting as locum for Mr. W. K. Barron, M.R.C.V.S., of Newbury, and visiting a case on a farm in Berkshire recently, I was asked to examine a number of ewes, about 80.

On observation I noticed that many of the animals were badly swollen around the vulva. I picked out a few which appeared to be most affected for particular examination, and found the following condition to varying extents in each case. The labiae were intensely swollen and inflamed, and on the insides showed pustular vesicles which in places had ruptured, leaving very raw areas extending into the vagina, which afforded an ideal camping ground for swarms of flies. Upon next turning my attention to the tup running with the ewes, I found that he also had similar lesions round the orifice of, and extending inside, the sheath.

The only conclusion I could come to was that the inflammatory state of the vulva during "tupping season" had predisposed the ewes to infection carried by flies, that the tup had become affected during coitus, and he in turn assisted in passing infection to already unaffected animals. It was noted that the percentage of infection was greatest amongst ewes which had already been served.

TREATMENT AND PROCEDURE.—A careful examination of the whole flock was made, each sheep being in turn examined, and the healthy ones separated from the affected, the tup being completely isolated from the rest. It was found that over 40 ewes were affected. These were treated daily by douching the vagina and vulva with a weak solution of chinosol and smearing externally with the following: Acid Carbol Liq. 6 drachms, Ol. Eucalypti 1 drachm, Olive Oil, 1 pint, which acted as an ideal deterrent against flies. In the case of the tup, the sheath was daily syringed with chinosol solution and externally smeared with the oils. Gradually I was able to pass cured animals

out of the affected into the healthy portion of the flock, during periodical visits and examinations.

It would be interesting to me to know if this condition described above is common, or has been met with recently by others.

AN EXPERIENCE WITH "DANISTOL."

By PERCY WELCH, M.R.C.V.S.,
Saffron Waldon.

On December 18th last year I made a *post-mortem* on three sheep. The carcases were very emaciated and I was told that nine had already died, all within a fortnight. The only thing that was found of any consequence was a large number of fluke in the livers.

On December 22nd the remaining 50 sheep were each given a "Danistol" capsule. This was repeated on December 24th. After the first dose no more sheep died, but a second dose was given for safety. The method I employed was, I got the shepherd to hold each sheep between his knees, and while he opened the mouth I pushed down a "Danistol" capsule with a pair of bullet forceps, dipped in oil each time. It is perfectly easy, quick and safe.

This is my first experience of "Danistol," and if ever I have fluke to deal with again I shall not hesitate to pursue this treatment.

OSTEOMALACIA IN THE GOAT.

By S. A. ASDELL, M.A., Ph.D.
(*Institute of Animal Nutrition, School of Agriculture, Cambridge*).

In the years 1924 and 1925 many cases of osteomalacia in the goat were reported from Lancashire. All the cases presented similar symptoms, softening of the bones of the legs so that the goats were disinclined to stand, softening of the bones of the skull and swelling of the head, and softening of the lower jaw. The teeth were loose, and on account of their inability to graze or to chew, the animals were dying of starvation. A feature of the cases was the comparative lack of green food in the diet. Their food consisted largely of hay cut from local roadsides, crushed oats and a maize preparation. Such grazing as was given consisted of two or three hours a week on local roadsides. One holding where seven goats were osteomalaceous, calcium phosphate had been added to the food three times a week.

After the writer had examined two cases *post-mortem*, a live goat exhibiting all the symptoms was received. She was unable to graze, and was evidently suffering from lack of food. Acting on the assumption that the osteomalacia was of a rachitic nature, as was suggested by the diet, and consequently due to the absence of fat-soluble vitamine,

the goat was fed on milk from a goat which had constant access to good pasturage. The milk was drunk with avidity and recovery was rapid, though the thyroids swelled somewhat after a fortnight. These ultimately became normal as was also the case with the bones, though those of the lower jaw still exhibit a slight swelling. The goat experienced oestrus during the subsequent breeding season and produced at term two live kids which she is suckling. The goat is grazing and eating hay and oats, but she still refuses hard cakes.

This complete recovery with subsequent pregnancy following a diet designed to supplement the fat-soluble vitamine is of interest, for Marshall (1922) states that there is a relationship between the ovaries and osteomalacia, which is relieved by ovariotomy. Recent work (Evans and Bishop (1922)) has demonstrated the necessity of the fat-soluble vitamines for maintaining the oestrous rhythms, and it is suggested that addition of fat-soluble vitamine to the diet may have cured the osteomalacia by restoring the ovary to a healthy condition.

The writer wishes to thank Professor J. B. Buxton for his interest in this case.

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CARCINOMA IN YOUNG DOGS.

By GEORGE DUNLOP-MARTIN, M.R.C.V.S.,
Westcliff-on-Sea.

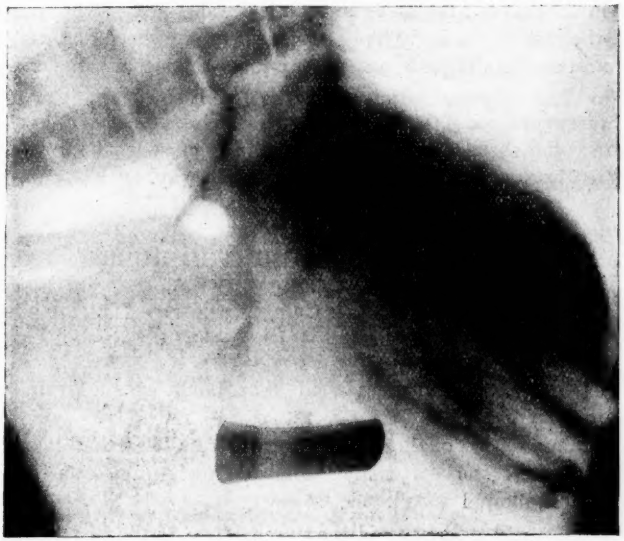
(*a*) A NINE-MONTHS-OLD Mastiff bitch came to me with a growth the size of half a large walnut on the hind leg, a few inches below and behind the hip joint. This was removed by myself with all due precautions. Unfortunately, the owner neglected to take the steps I suggested to prevent the bitch interfering with the wound, and she got at it and tore the sutures out, but the wound healed well by granulation. The growth was sent to the animal institute at Cambridge, where it was examined and reported as carcinoma. So far there has been no recurrence. (Six months ago.)

(*b*) A seven-months-old half-bred Pom. dog with a growth a little smaller than the previous case on the outside of the elbow exactly over the joint. This was removed under general anæsthesia, and though from its situation I feared complications, the wound healed by first intention. This growth was kindly examined at Cambridge and reported to be carcinoma. Also no recurrence. (Three months ago.)

LEAD PIPING SWALLOWED BY A PUPPY.

By G. P. MALE, M.R.C.V.S.,
Reading.

A GREAT DANE puppy, previously in good health, was taken ill with a series of three fits, accompanied by some sickness. Being a puppy it had been known to have swallowed stones and other foreign bodies at various times. As a foreign body was suspected, a careful palpation of the abdomen was made and the Röntgen rays were applied. A foreign body, resembling a piece of piping, was then distinctly visible. There was no distress, and as the dog was able to pass fæces and had quite a good appetite, it was not thought advisable to be in a hurry to perform an operation.



Skiagraph showing the piece of lead piping *in situ*.

After a continued dietary of food, largely consisting of suet pudding, a foreign body was passed. This proved to be a piece of lead piping $5\frac{1}{4}$ in. long and weighing $7\frac{1}{2}$ ounces.

A good and quick recovery was made, all going well until a few weeks later, when the dog had another fit and died rather suddenly.

On a *post-mortem* examination being made, the stomach was found to contain a quantity of hard wheat straw, otherwise there was nothing abnormal. No doubt the irritation of the stomach which this produced caused the fits which ended so disastrously.

A CANNIBAL DOG.

By ARTHUR WHICHER, M.R.C.V.S.,
Bexhill-on-Sea.

The article, "A Cannibal Cat," by Mr. H. Buckingham, in the May issue of the Veterinary Journal, reminds me of an experience I had about 18 months ago.

On behalf of the police, I took in two stray dogs—one a sheep dog puppy about eight months old, and the other a mongrel about the size of a small fox terrier. They were put in a covered run with access to three ordinary kennels. After they had been in for two days the mongrel did not come out to feed, but no notice was taken of this. As, however, he did not appear on the third day a search was made, with the following result. In one kennel the head was found, and in another the tail and one hind leg. There can be no question that the rest of the body had been eaten by the sheep dog, as there was no possible chance of any other animal getting into the enclosed run.

Since mentioning this case to Professor Hobday I have been able to trace the sheep dog and find that he is on a local farm and is apparently a perfectly behaved dog in every way.

GASTROTOMY OR ENTEROTOMY FOR RUBBER BALLS SWALLOWED BY DOGS.

By FREDERICK F. G. HOBDAY, C.M.G., F.R.C.V.S., F.R.S.E.
(late Examiner in Surgery to the Royal College of Veterinary Surgeons), Kensington, London, W.

It is curious how in practice one occasionally gets a "run" of a certain type of case.

Within a period of three weeks there were no less than four cases in which the history of canines admitted to hospital was that the dog had swallowed a ball.

Having had experience of the unreliability of the histories given by owners, I took the precaution in each case to have the animals radiographed, and the result was, in every instance, confirmative.

No. 1 was a Bedlington terrier, 18 months old, which was stated to have swallowed a bagatelle ball. It was supposed to have been taken some four days previously, and the dog was now in considerable pain, with loss of appetite and a temperature of 103°.

The skiagraph demonstrated the ball to be wedged in the upper portion of the duodenum, and I was able, when the abdomen was opened, to push it along into a portion of the bowel which was to all appearances perfectly healthy.

Enterotomy was performed in the usual way; the wound being closed by Lembert's suttures of fine silk, and the dog was returned to its owner on the ninth day.

No. 2.—In this case, I received a telegram from Somersetshire, saying, " My dog has swallowed a tennis ball; what shall I do? "

After a telephonic conversation with the owner's local veterinary surgeon, the animal, a wire-haired terrier, was sent to London by the next train, and upon arrival was skiagraphed as speedily as possible. The ball was distinctly seen in the stomach.

Gastrotomy was performed, and the ball (which proved to be a squash-racquet ball) was removed.

The stomach walls were sutured with fine silk and recovery (which was somewhat prolonged owing to an attack of distemper) was, in so far as the operation was concerned, uninterrupted.

No. 3.—A Great Dane puppy, some 11 months old, had swallowed a " Sorbo " ball, which was rather larger than a golf ball.

It was the habit of its owner to give him two rubber balls to play with; one being thrown some distance, and as soon as it was retrieved, the second one was thrown. On this particular occasion he had retrieved the ball and was running on the lawn with it in his mouth, when a friend who was near, threw the other ball for him to catch, and in jumping up he gulped down the ball which he had in his mouth.

Here again the radiograph was useful in confirming the diagnosis, and gastrotomy was performed as in the previous case, with successful results.

The animal did not seem to show the slightest evidence of the severity of the operation, and grumbled considerably because he was not fed in the usual manner; and on several occasions, jumped up against the bars of his kennel, being irrepressible in his activity and high spirits.

On the fifth day, to my dismay, I saw that several of the stitches in the abdominal wall had given way, and that a knuckle of bowel, accompanied by a piece of omentum, was protruding. Fortunately, it could not have been there very long, and, as immediate help was at hand, the patient was put on the operating table and the abdominal wall re-sutured.

After this every precaution possible was taken to keep the dog quiet, and eventually he made an excellent recovery without any further complications.

No. 4 was a collie dog which had also swallowed a " Sorbo " ball some 10 days previously, and a skiagraph demonstrated this to be wedged in the duodenum.

The patient, which had come from Derbyshire, was unfortunately almost in a state of collapse on arrival; and the bowel, on being opened, was found to be gangrenous.

As it was impossible to move the ball into a portion of the gut which was healthy, an incision was made over the ball and the bowel afterwards sutured in the usual way.

Unfortunately, in this case, the patient died about 10 hours later.

PROLONGED PARALYSIS AFTER DISTEMPER WITH ULTIMATE RECOVERY.

By JOHN BELL, F.R.C.V.S.,
Catford, S.E.

I HAVE been greatly interested in Mr. Kirk's account in the *Veterinary Record* for August 14th, of a long deferred recovery from paralysis following distemper. I have had two cases this year with an even more tardy recovery, proving as in Mr. Kirk's case the necessity for a guarded prognosis.

In August, 1925, I had treated a mongrel fox-terrier for distemper, followed after six weeks by paralysis, but with one month of nerve tonics, combined with violet ray (high frequency electricity), the animal was quite fit and well.

In December, 1925, I had two patients (two-year-old sheep dogs), each of which had a slight attack of distemper, so slight that I sometimes doubted if their catarrh and fever was really distemper, until on January 12th, 1926, one showed signs of chorea. A week later began to stagger in his gait and on January 21st was completely paralysed. This dog was so perfectly helpless that his head required support when feeding. With the new aid in nerve trouble—violet ray —I hoped for recovery in two months.

On February 22nd, the dog could hold up its head, but progress was very slow, the fore legs were moving in March, and on April 12th he could sit up on his hindquarters, using his forelegs to balance himself, but he did not walk until June 22nd. In July he could rise and walk without help. August 23rd, although running well there is still room for further improvement.

The second dog was about two weeks later in showing the staggering gait and paralysis; the gait being affected on January 30th, and paralysis complete in four days. This dog had no chorea, but he quite lost his voice. He used to open his mouth to bark but nothing happened until about June 15th, when he made a faint noise. August 8th he barks well and uses his forelegs to carry all his weight.

August 23rd he walks by the aid of a towel under his abdomen, held by a hand each side.

Medicinally, the dogs received febrifuges first, supplemented by quinine and arsenious acid in January. February 1st, I began nerve tonics (ext. nux. vom., quinine, arsenious acid and ferri. phos.) and still continue; also violet rays (and ultra violet rays on dull days during March, April and May).

It is rather interesting that during the first three weeks of the high-frequency treatment, I gave it on Mondays, Wednesdays and Fridays, but was then told that I must give it on alternate days and not miss two days, as the animals were not so well on Sunday and Monday morning when the treatment had been omitted.

Although the temperatures were normal in February, their noses did not lose their dryness until May.

Without the most perfect nursing which these two dogs received, there can be no doubt that they would not have recovered. When slight bed sores appeared air cushions were ordered and readily supplied, allowing the sores to heal and preventing their recurrence.

I ought to add that during July and August the owners used the high-frequency apparatus themselves, and still continue daily applications, with all the natural sunlight it is possible to obtain.

CÆSAREAN OPERATION ON A BITCH.

By H. C. WILKINS, M.R.C.V.S.,
Crewkerne.

On the night of May 11th, I was called to see a Beagle bitch that had been in labour the whole day, with no apparent result. On examination I found the passage only slightly dilated, but otherwise in a normal state for delivery. After spending some time in dilating, I could just reach the head of a fœtus, which was distinctly of abnormal size. Some time was spent in attempts to get the head into the passage, but proved unsuccessful, as also did attempt to crush it. Finally, I decided to leave the patient until morning, hoping to find in that time the fœtus forced into the passage. (To increase labour, I gave 1 cc. pituitrin.)

Next morning I found the bitch very exhausted and the fœtus firmly wedged in the passage. After all attempts of removing were exhausted, and as the owner was particularly anxious to save the bitch, I decided to operate.

The bitch was brought to the surgery, and I gave 1 gr. morphine sulph., leaving the case for about an hour to attend another case. The patient was secured and an anæsthetic mixture of chloroform (two parts) and ether (three parts) was given.

THE OPERATION.—An incision was made through the median line and when exposed the left horn only of the uterus was found to be occupied. An incision was made on the lateral aspect of the left horn and a single, abnormally large fœtus extracted. Membranes and discharges were cleared; a solution of chinosol used for mopping out. The edges of the wound were brought together with fine silk interrupted sutures and these closed in with Lembert sutures. The peritoneum and muscles were secured with a single row of interrupted silk sutures and the skin in a similar way.

Patient was quite normal next day and quite keen for food. On the third day I noticed when dressing the wound that a portion of omentum was protruding between two of the skin stitches. On examination I discovered that the suture in the muscle layer had torn away a strip of muscle from one side, leaving a rupture through which protruded intestine and omentum. I removed the whole of the stitches and resutured the whole wound, the internal sutures being of catgut.

From that time the patient made an uneventful recovery except for a slight rupture, apparently due to a recurrence of muscle rupture. It was discharged on the 30th.

SUPERFICIAL KERATITIS IN DOG'S EYES.

BY HERBERT BUCKINGHAM, M.R.C.V.S.,

Norwich.

OCTOBER 28th, 1925. Fox terrier dog, four years old.

HISTORY.—Two months ago he was knocked down by motor, seemed to recover in bodily health, but now his eyes have gone wrong—he cannot see properly and runs into things.

I examined his eyes carefully with an ophthalmoscope. All the structures beneath cornea seemed to me to be normal in both eyes. The cornea of each eye was more or less opaque half way up, the biggest density of it was at the lower margin of each, clearing up about half way. The superior half of each was quite transparent, and I could find no ulceration.

I treated the case in the usual way.

Saw it again November 7th and December 10th, 1925, when both eyes seemed to be nearly cleared. I advised a continuation of treatment and thought the case done with.

February 13th, 1926. Terrier was brought again by the owner, who admitted having left off treatment for the last two weeks.

The cornea of each eye had again become opaque in the lower half. I was vexed and went to work again.

March 25th, 1926. The eyes were very much worse; opacity in each increased, and now I could plainly see an ulcer on one eyeball, with what I then thought to be an extravasation of blood into the corneal tissue.

April 12th, 1926. On this date, at my request, and with the consent of the owner, a medical colleague, Dr. W. E. Rutledge, F.R.C.S., met me in consultation and examined the dog's eyes.

The doctor dropped a few drops of stain into each eye, then rinsed out with water, the stain showed up two big ulcers. He then dropped some cocaine into each eye and after five minutes dressed the edge of each ulcer with a solution of carbolic acid, using a piece of wood for its application. Very soon the edge of each ulcer curled up and he removed it with a small pair of curved scissors. The material removed was, of course, dead epithelium.

He ordered one drop liq. atropine sulph. and, separately, one drop sol. argyrol five per cent. to be put into each eye twice a day, and to irrigate twice a day with boric lotion.

April 25th, 1926. One corneal ulcer had healed and the opacity was much less (right). The other ulcer was reduced by half (left). This one was dressed again and the treatment continued.

May 15th, 1926. The right eye was much better, the upper two thirds of cornea being normally clear, the opacity still reducing and no ulceration now. Left eye still ulcerated, ulcer rather deep and surface seems to me to be uneven and almost "gritty." This was scraped and the treatment continued. Apply fomentations.

May 25th, 1926. Unluckily, on this date I got a letter to say that the dog had been accidentally poisoned and was dead.

THE VALUE OF PITUITRIN IN UTERINE INERTIA.

By H. C. WILKINS, M.R.C.V.S.,
Crewkerne.

THE use of Pituitrin is often of the greatest value in cases of prolonged parturition or uterine inertia in the smaller animals and the sow. A recent case prompts me to mention it as typical of several cases I have had. I was called to a pedigree sow which had been in labour for 36 hours; she was found with one pig and as nothing further happened on the following day, I was called in. On examination I could not locate a fœtus, although it was evident from appearances that there were several present. I gave the sow 3 cc. petuitrin and decided to leave her for a few hours. Just as I was leaving, a man called from the sty that the sow was in labour again and in less than an hour from the time I injected the pituitrin the sow had given birth to nine live pigs.

AN UNUSUAL AND FATAL HÆMORRHAGE.

By Wm. G. FORBES and F. McD. McKENZIE, M.R.C.V.S.,
Kilmarnock.

An Ayrshire cow, grazing with a herd in a field adjoining the highway where telegraph poles were being set up in the field. The workmen had left one pole overnight with the wire " stay " unfinished, and the end of a piece of twisted wire projecting. The cow was missed in the early morning when the others were taken in, and on search being made, she was found lying dead in a hollow; and in various parts near where she lay, large quantities of clotted blood were observed. The carcase was drained—only a very small quantity of blood being left in the body.

Cause.—Puncture of one of the milk-veins—the actual hole just admitting the case of a thermometer. The cow had evidently straddled the wire and the blood-stained point and blood underneath completed the evidence.

ARTIFICIAL SUNLIGHT TREATMENT FOR PARALYSIS IN DOGS.

By N. WOOLLEY, B.V.Sc., M.R.C.V.S., D.V.H.,
Great Crosby, Liverpool.

Subject.—Old-English sheep dog, puppy, 11 weeks.

On April 20th, this animal was brought to me with the following history. Up to 18th inst. it had been in perfect health and was one of a litter of six. All had been docked when about five days old, and the owner said no untoward symptoms had been seen. On that date lameness occurred in the right fore limb, and was thought to be due to a bite from one of the litter. On 19th the lameness had spread to the left fore and hind limbs. Anorexia now commenced. Great pain was evinced on touching the limbs or picking up the animal. On 20th the symptoms were as follows :—

The animal was unable to stand or even kick the legs about. No movement in the head or neck. Apparently there was inability to swallow, as if food was placed in the mouth at the back of the tongue, it remained there or fell out. The eyes appeared to be fixed in one direction, and it took quite a few minutes before it was able to look in another direction, and showed little tendency to blink when the hand was passed to and fro. Although the animal did not cry out, its expression appeared to denote pain on being touched.

The scratch reflex was absent on both sides. Passage of fæces and urine was unimpaired. Temperature, 103° F. Pulse normal. Respiration slightly slowed.

DIAGNOSIS.—Tentatively, general paresis, probably due to some injury.

TREATMENT consisted of ac aceto salic and quinine hydrochlor, followed by nux vom. Locally a 1-12 hydrarg iodi. rub. blister was applied down the spine.

By April 27th no improvement was shown, so I decided to try the effect of ultra violet rays, using a modern quartz lamp. The first exposure was for four minutes, without heat, on the under surface of the abdomen, where the hair was scantiest. No reddening or irritation appeared afterwards as is sometimes seen in man, and no dressings were applied. Care was taken to see the intense light did not get to the eyes. On May 1st a great improvement was noticed. The animal was now able to sit up and move the forelegs, but the hind legs still showed no sign of movement. The appetite had returned and was good, the food consisting of raw eggs and milk. Another exposure was given on this date for eight minutes to the abdomen and the back, though here the hair was thick, and the owner did not want it cut. On May 4th the dog first walked normally, though ran with a peculiar gait, carrying both hind legs together. By 8th it could move perfectly and was returned to the litter. About 20th there was no sign of any disease.

I do not claim that the electric treatment was successful *per se*, although improvement dated from its inception, but I should value the opinion and experiences of your readers as to the limits of its use.

DERMOID CYST IN A CAT.

BY LOUIS SEWELL, M.R.C.V.S.,
London,
AND
F. A. CREW, M.D., D.Sc., PH.D.,
The University, Edinburgh.

THE specimen was an example of a dermoid cyst. Microscopically it contained bone, cartilage, connective tissue (chiefly white fibrous), muscle (plain and striated), and in addition to these which were well differentiated, there were structures resembling imperfectly formed sweat glands and a small area having the appearance of marrow tissue. The arrangement of the tissues in one of the sections examined suggest imperfect formation of phalanges.

Tumours of this variety may contain any kind of tissue as they are believed to be derived from a totipotent cell which has become separated off from the tissues of the host at an early stage of development, thus escaping differentiation into a complete individual. Nerve elements are uncommon, and while striated (i.e., voluntary) muscle might theoretically be expected to occur fairly frequently, it

is actually very rarely found and is seldom well formed. The specimen is therefore of some interest, as it contains small bundles of striped muscle. There is a curious resemblance to cardiac muscle in places owing to a tendency to lateral branching, but it is not like cardiac muscle in other respects.

FIG. 1.

Gland acini were not found, the only glandular elements being the rudimentary sweat glands referred to, and there were no hair follicles. Nerve elements were also absent, but owing to late fixation, they were not likely to be demonstrable and need not necessarily be excluded.

"Dermoid cysts" are more accurately termed "teratoid cysts" (Muir) since they contain not only structures related to the skin, such as epidermis, sebaceous material, degenerated epithelium, etc., but also teeth and gland-like structures lined with columnar epithelium representing the respiratory and alimentary tracts in addition to bone, cartilage, connective tissue, and muscle.

According to Muir, "In the common type of teratoma or 'dermoid cyst,' there is usually a large cyst lined by striatified squamous epithelium and containing hair and sebaceous material; while at one side there is an elevation representing the head from which the hairs take origin and not infrequently teeth project. Other tissues are variously represented.

"TERATOMATA are thus the result of maldevelopment of structures of the three germinal layers derived from a totipotent cell and have not necessarily the essential features of true tumours, that is indefinite autonomous proliferation. Some remain without undergoing much change and whilst enlargement of the ovarian forms takes place chiefly by accumulation of secretion within the cyst."

The theory most commonly accepted regarding the origin of such tumours is based upon Cohnheim's hypothesis that in the course of development groups of cells might be separated or dislocated from

FIG. 2.

their normal relationships and exist in a dominant condition as "rests."

"Another view is that teratomata are derived from the male or female germ cells. Such cells may be regarded as totipotent after fertilisation, i.e., when union with a cell of the opposite sex takes place. . . . It has also been supposed that teratomata might arise from fertilised polar bodies, but any substantial evidence in support of this appears to be wanting." (Muir.)

SKINNING ALIVE!

By GEORGE DUNLOP-MARTIN, M.R.C.V.S.,
Westcliff-on-Sea.

About 12.30 at night I was recently called from bed to find a much agitated gentleman at my door with a three-year-old black Pom. dog which he asked me to see to at once as it had just been worried unmercifully by an Alsatian, which had picked it up by the scruff of the neck and shaken it as the proverbial dog does a rat. On separating the hair, I found the skin had been completely torn away over an area about four inches wide and extending almost round the neck, there being only a small isthmus of skin left about two inches wide in the front.

The violent shaking had separated the skin from underlying tissue, both forward as far as the base of the ears and backward as far as the sacrum. It looked (except for the portion of torn skin) as if somebody had been trying to carry out blunt dissection, with the object of getting the skin away intact.

I could hardly believe that one dog could shake another so violently, even allowing for the difference in size between an Alsatian and a Pomeranian, but the owner assured me that it had just happened.

The dog (Pomeranian) was at once destroyed with chloroform.

PARROT WITH LARGE PEDUNCULATED TUMOUR.

By GEORGE DUNLOP-MARTIN, M.R.C.V.S.,
Westcliff-on-Sea.

I first saw this case—a green parrot, known to be 23 years old at least, having been brought from Pensacola 23 years ago. It was a round, somewhat pedunculated growth about the size of a large (hen's) egg, and hung from a point under the body in front of a line joining the two legs.

It caused the bird considerable inconvenience, particularly when on its perch, as when the bird wanted to turn round, owing to the tumour overhanging the perch, the bird had some difficulty in hitching itself up sideways in order to lift the tumour over every time.

Having decided to operate, a local anæsthetic (Waite's) was injected all round the base of attachment, and with two ladies of the household holding the bird in a piece of folded blanket, removal was comparatively easy. The wound was sutured, painted with Tr. iodine and dusted with acid boric and tannoform, and the bird made an uninterrupted recovery. The tumour weighed just under three ounces. It was sent to the Pathological Laboratory at Cambridge and reported to be a lipoma.

The bird was thin, out of condition, plumage dull, and the bird itself listless before the operation. It is now in splendid condition, has put on weight, and its plumage is as good and bright as could be desired.

Translations

A NOVEL CASE OF MASSIVE PANCREATIC LITHIASIS IN A COW.*

By L. SPARTZ,
Doctor of Veterinary Medicine, Municipal Veterinary Surgeon at Luxemburg.

THE subject was a Dutch cow 10 years old, in good fat condition slaughtered on January 8th at the abattoir of Luxemburg.

Apart from some old nephritic spots this cow showed a large calculous growth of the left extremity and of the middle part of the pancreas. The organ was uniformly increased in size and showed a redder tint than normal, a fact which awoke the attention of the slaughterman. Palpation of the left and middle part showed tracks of very hard consistence which, when incised, gave issue to an innumerable collection of calculi which have been sent to swell Professor Gabriel Petits' collection.

In the parts affected, the branches of Wirsung's canal were greatly dilated and packed with 50 calculi the size of one's fist intermingled with innumerable smaller calculi, hardly visible, made up of pancreatic sand and resembling table salt finely powdered. The canals with calculi are as large as a pencil and are packed so that the passage of the pancreatic juice is completely obstructed, a stasis which explains the increase in size and the more reddish tint of the gland.

This case of lithiasis differs from that shown at the October 1st Meeting :—

1.—By the presence of two varieties of calculi, one of the size of the fist and the other of a grain of sand.

2.—By the localisation of the lithiasis on the left and middle parts of the organ.

If the formation of the calculi was due to abnormal richness of the pancreatic juice in mineral principles, then the excess of mineral salts ought to have given rise to a generalised calcification of the organ and not to a circumscribed area.

ON THE USE OF ADRENALIN IN DIFFERENT MALADIES.

By POTEKIN,
Doctor of Veterinary Medicine, Djarkoull, Russia.

Revue Veterinaire, Mar. 1926.

(1) PHARYNGITIS.—In several cases of pharyngitis I have used with success a one per thousand solution of adrenalin as subcutaneous injections. The first day after the injection of 3 cc. of solution of adrenalin, horses which up to then could not drink at all, because

* *Recueil de Médecine Vétérinaire*, February 28, 1926.

the fluid flowed back through the nostrils, have generally been able to take a bucketful of water without difficulty ; on the morrow after the second injection they have been able to drink normally, and complete recovery has been obtained at the end of five days, whilst ordinary treatment by irritating frictions, warm compresses, etc., necessitate two weeks to a month. I have treated in and about Moscow six analogous cases with the same result and I consider adrenalin the quickest remedy in this malady.

(2) Acute Bronchitis.—In Siberia during the year 1924, I observed several cases of acute bronchitis in cows belonging to herds having travelled 15 versts across country and being watered with cold water. Food and drink were absolutely refused and dyspnœa was extreme ; auscultation revealed crepitant rales on both sides, the animals trembled all over and could not lie down. After a subcutaneous injection of 3 cc. of a solution of adrenalin, dyspnœa disappeared as a rule at the end of 1½ hours. We have not up to the present any remedy, in veterinary medicine, by which we can obtain so rapid a result.

(3) Inflammation of the Lungs in Birds.—It is on the approach of spring and autumn that lung troubles usually appear in birds, and it is not uncommon to find the whole flock to be the victim of this infectious malady. The subjects cannot hold themselves up, refuse all nourishment, have great dyspnœa and hold the beak constantly open. If the illness lasts long enough anæmia and weak heart follow and the sick birds become very emaciated and lose all value. In this ailment solution of adrenalin has proved very useful. On sick birds for several days, I made two injections of 10 or 15 drops of adrenalin, according to size, and painting with tincture of iodine under the wings on each side ; and I gave aspirin when there was rise of temperature and good wine in drops for heart weakness. I prescribed for all the flock a weak solution of sulphate of iron and permanganate of potash.

Recent cases cured at the end of a few hours ; old cases took more time and trouble, but each time adrenalin gave striking results.

I have thus successfully treated geese and fowls in the environs of Moscow and in Siberia where the inhabitants keep large flocks of poultry. From its rapid effects adrenalin takes first rank as an active remedy.

(4) Pest of Sucking Pigs.—During the spring and summer this malady often develops terribly in Russia, and to such a degree that all rearing becomes impossible. The owners for the most part do not recognise the symptoms, and some animals die unattended. The

veterinary surgeon is only called in too late ; nevertheless adrenalin is also very useful here.

One usually finds the pigs thin, listless, without appetite, with diarrhœa and on the skin and ears the characteristic eruptions. A prompt injection of adrenalin twice a day for two days has produced the best results. In old cases it is necessary to repeat the injections for several days.

In severe plague it is best to try adrenalin in all cases. The pig is hidden in an obscure corner, he cannot walk, he refuses food and drink and exhibits continual trembling. After a first injection he tries to move about ; next day he can get up. After a second injection accompanied by the administration of sulphate of iron and pot. permang. internally and of suitable feeding with flour gruel the animal gets all right.

At Spass, near Moscow, I observed the following incident : The sexton of the church at Spass had a little cat, healthy up to then ; he killed a pig five months old on account of its marked leanness and gave some of this raw meat to his cat. After a few days I found the cat stretched out on the ground without movement. I concluded that the cat was infected from the chronic pest of the pig ; I gave a subcutaneous injection of 10 drops of adrenalin at one per thousand, and the same evening the cat began to make some movements. On the morrow the cat received a second injection, and at the third she commenced to take milk. I then commenced treatment by injections of distemper serum (Park, Davis) and the cat recovered. The case is interesting from two points of view :—(1) As an extraordinary case of immediate poisoning by the ingestion of fresh meat from a pig affected with chronic cholera ; (2) By the rapid curative effect of injections of adrenalin against asthenia.

(5) Pleurisy of the Calf.—A peasant near Moscow had a six months old calf, ill for six weeks. Called to visit this animal I found him stretched out, without movement, with severe dyspnœa and refusing almost entirely all nourishment. I made a subcutaneous injection of adrenalin and at the end of three days respiration became easier, the dyspnœa declined ; the peasant, however, decided not to continue treatment.

(6) Post-partum Paralysis.—One generally treats this malady by insufflation of warm air into the udder and subcutaneous injections of caffeine ; the cure is generally brought about at the end of 12 to 24 hours. I actually apply in this malady a new method. In the more serious cases where the comatose state is very pronounced, I combine with air insufflations injections of adrenalin at one per thousand (5 cc.), injections of caffeine and camphorated oil and warm clothing,

completed by frictions with a smoothing iron. The somnolent state disappears rapidly and at the end of an hour the animal starts to eat again. I have applied the same method in the treatment of tetanus.

REMARKS.—According to Professor Pells, of Petrograd, Hylgren, Tekowsky, Kristopenko, Boinet, Coudinzeff, etc., the suprarenal glands are of great importance in all animals. By subcutaneous injections of adrenalin we generally make asthenia disappear and the oppression, pains in the head, pruritis, inappetence and vomiting. At the same time the activity of the heart and the urinary secretion are improved, the pulse is fuller and slower, asthenia disappears and the heart sounds are clearer.

Cybulsky and Simonowsky have shown that the extirpation of the suprarenal capsules causes death, with symptoms of apathy, dyspnœa, muscular weakness, fall of blood pressure and slowing of the pulse. Several of these observers affirm that partial extirpation of the suprarenal glands causes emaciation. Gisson, by crushing the suprarenal capsules has produced emaciation, general weakness and paralysis of the extremities. According to Coudinzeff the suprarenal glands furnish to the blood the necessary substances for the nutrition of nervous elements. According to Ouspensky the suprarenals undergo an important hypertrophy in infectious maladies and a violent congestion leading to the formation of small hæmorrhages and hæmorrhagic eruptions of the skin regularly follow hæmorrhages of the suprarenal glands. Bombici asserts that the suprarenal glands eliminate or neutralise the virus of rabies. In all cases they are essentially modified as a result of infection by diphtheria, cholera, tuberculosis, bubonic plague, etc., and they are of great importance in the resistance of the organism against infection.

Extracts of suprarenal glands or adrenalin relieve blood pressure, cause contraction of small vessels and thus oppose one of the symptoms of pest "*maladies des hemorragies.*" The suprarenal glands contain two substances: *choline*, which lowers blood pressure, and *adrenalin*, which raises it; they are antagonistic for the liver, pancreas (?), ovaries (?). Adrenalin excites the pancreas, which transforms the glycogen of the liver into sugar. That is why a strong irritation of the suprarenal glands provokes glycosuria; *per contra*, during the period of depression due to extirpation of the suprarenal capsules sugar disappears from the system. A. Crosteau asserts that pigmentation anomalies that one observes in the course of ailments of the suprarenal glands are in league in one form or another with alterations of the glycogenic function. Two disorders of the suprarenal glands are met with: (1) *Yperepinephritis*, causing abundant adrenalin in the blood leading to dilation of the pupil, headaches, disordered hearing,

vertigo, irritation of the eyes and vision disturbances passing on to amanrosis, transient aphasia, convulsions (cerebellous) and transitory paralysis ; (2) *Hypæpinephritis*, insufficient functioning of the glands, causing asthenia progressing more and more into a chronic state.

Abstracts of Current Literature

Auger, M. L.—Researches into the Pathogeny of Milk Fever.—*Theory of Hypoglycæmia.—Revue Gén de Méd. Vétérinaire*, July 15th, 1926.

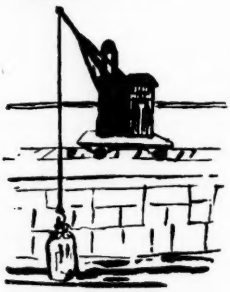
It would appear from researches and arguments advanced, that milk fever is due to a hypoglycæmia ; how is it caused ? Maguire attributes it to disturbances in the endocrine glands. In the course of gestation, he says, adrenalin is elaborated in large quantities, which brings about in pregnant cows slight glycosuria and an increase of blood pressure ; but this adrenalin secreted in too great amount leads to a draining of the suprarenal capsules. Insulin, under an unknown influence is secreted in abundance after parturition by the pancreas ; it can no longer be neutralised in sufficient quantity by the adrenalin, and this excess of insulin leads to a diminution of blood pressure and a great hydration of this latter, with the result of precipitation of albuminoid particles in the cerebral capillaries, provoking all the symptoms of milk fever ; fall of blood pressure, coma and death. The injection of air or oxygen into the udder, or even intravenous, or subcutaneous injection of a solution of glucose brings about breaking up of the albuminoid particles precipitated and leads to cure.

On fresh examination of the conditions under which milk fever arises we see that the malady seems to be conditional on intense functioning of the mammary gland ; we have sought previously to demonstrate that at the moment of parturition, when the udder freshens, a sensible diminution of glycæmia is produced, and it appears to us preferable to admit, as from the experiences of Porcher we know that lactose is elaborated at the expense of glucose of the blood, that it is this freshening which determines the hypoglycæmia. If the udder demands much as happens with good milkers, it pumps glucose in such quantity that it can bring about a marked decrease of the cypher of this sugar in the blood. Hypoglycæmia is produced and all its consequences follow.

*POTTED PESTOLOGY: A FABLE.**

By ELIZABETH CASSON, M.B.

This
is
the
ship
that
Jack
built.



This
is
the
grain
from
overseas
That
lay
in
the
ship
that
Jack
built.

This is the rat with many fleas
That ate the grain from overseas
That lay in the ship that Jack
built.

These are the anti-plague
devotees
Who drowned the rat with
many fleas
That ate the grain from
overseas
That lay in the ship that
Jack built.

This is the gnat Anopheles
That bit the anti-plague devotees
Who drowned the rat with many fleas.
That ate the grain from overseas
That lay in the ship that Jack built.

These are the parasites which did
squeeze
Through the snout of the gnat
anopheles
That bit the anti-plague devotees
Who drowned the rat with many
fleas
That ate the grain from overseas
That lay in the ship that Jack built.

This is Sir Ronald the first to seize
The fact that malarial parasites squeeze
Through the snout of the gnat
anopheles
That bit the anti-plague devotees
Who drowned the rat with many fleas
That ate the grain from overseas
That lay in the ship that Jack built.

These are the scientists, hes and shes
Who search like Sir Ronald, the first to seize
The fact that malarial parasites squeeze
Through the snout of the gnat anopheles
That bit the antiplague devotees
Who drowned the rat that had many fleas
That ate the grain from overseas
That lay in the ship that Jack built.

This is the College whose wise trustees
Are backing the scientists, hes and shes,
Who search like Sir Ronald, the first to
seize
The fact that malarial parasites squeeze
Through the snout of the gnat anopheles,
That bit the anti-plague devotees,
Who drowned the rat that had many fleas
That ate the grain from overseas,
That lay in the ship that Jack built.

Moral.

Now this is the moral, so
listen, please—
If you join in the raiding
of pests like these
Or (if you can manage it)
give bawbees
Then you are the people
who fight disease
By helping the College
whose wise trustees
Are backing the scien-
tists, hes and shes
Who search like Sir
Ronald, the first to
seize
The fact that malarial
parasites squeeze
Through the snout of the gnat anopheles
That bit the anti-plague devotees
Who drowned the rat that had many fleas
That ate the grain from overseas
That lay in the ship that Jack built.

* This amusing and clever composition was the selected winner for a prize of £10 10s. offered by the College of Pestology and the *Morning Post*.

Milk fever appears to result in animals selected as milkers from a failure of momentary co-ordination between a full functioning udder in a parturient cow and the organs concerned in furnishing to the blood the constituents of milk : more precisely from a failure of co-ordination between the organs which intervene in the metabolism of carbo-hydrates and the udder. Injection of glucose, mammary insufflation, the former by re-establishing the cypher of glucose in the blood, the second by destroying the functioning of the gland and thus allowing it to regain its glucose contents, re-establishes this co-ordination necessary to life. We will recall here the calculations of Widmark and Carlens, which show that a cow giving 28 kilograms of milk renews the glucose of its blood about every 15 minutes. It is not only by one alone of the constituents of milk that specialisation pushed to the extreme in animals leads to disturbances of the system. In deep milking cows, in spite of intensive feeding, a ration perfectly calculated and balanced, American breeders have noted the appearance of skeletal troubles from demineralisation of bone with spontaneous fractures. The elaboration of milk requires a large quantity of calcium ; this is not sufficient from the feeding ; the bones alter and by increasing the proportion of salts of calcium in the ration, one cannot always cause the trouble to disappear. The metabolism of calcium is badly known ; we are aware that some endocrine glands are concerned : parathyroid, thymus, thyroid, genital glands ; are there lesions of these glands, vegetative disturbances of the nervous system assigned to co-ordinate their action ? We do not know. It is the same with the metabolism of glucose ; we know that for the regulation of this sugar the liver, pancreas, suprarenals, kidneys, the hypophysis, the thyroid body, and even the spleen and salivary glands are concerned ; that the action of these glands is co-ordinated by the nervous system. A momentary failure of co-ordination of these glands brought about by specialisation in the production of milk may bring about a lesion of the glands at the moment when the lacteal secretion is started, and so provoke a lasting trouble. Cows which are only slowly cured or which die of milk fever in spite of Evers treatment have un-undoubtedly lesions of the organs which regulate the metabolism of sugar, lesions which perhaps as yet have only been partially recognised. Cagny and Delamarre, Ehrhardt, Maguire have already noted a fatty degeneration of the liver. Just as certain cows are not cured of milk fever, so certain animals which have received insulin are not cured by injection of glucose. There would appear to be two forms of milk fever, one due to lack of co-ordination between the udder and the glands which regulate the metabolism of carbo-hydrates and another form accompanied by organic lesions always serious and

resistant to the usual method of treatment. It will be seen that the question of the nature of milk fever is not yet completely elucidated and that we are far from having exhausted the question. The theory of hypoglycæmia in every case, explains in a clear fashion cases of milk fever occurring before parturition; one knows that lacteal secretion commences before calving, outside parturition, in good milch cows.

The author conducted experiments on four cows and two goats to show how insufflation of the udder brings about a hyperglycæmia. The quantity of sugar eliminated in the urine was proportionate to the intensity of lactation about 10 grammes in a dry cow, 60 grammes in a cow giving five to six litres of milk, more than 100 grammes in a cow at full lactation.

Gruter, Dr. F.—Placenta Extract as a Galactagogue.—*Schweizer Archiv. f. Tierheilkunde*, July, 1926.

In the text book of comparative Physiology of the Domestic Animals, Ellenberger and Scheuert, 1920, in the chapter on Milk and its Secretion by H. Rievel, of Hanover, a very interesting experiment by Basch is cited. Basch succeeded in bringing about an increase in the size of the milk glands of a virgin bitch by implantation of the ovary of a pregnant bitch under the skin of the back, and by subsequent use of placental extract this bitch gave milk enough to suckle the litter put to her.

Hereafter I give the effect of the administration of placental extract tabloids given as a galactagogue.

In a herd of 15 milch cows, where after an epidemic of foot and mouth disease in 1920 and 1921, placental extract tablets had been given, the amount of milk in individual cows was increased by ½ to 1 litre, and in odd cases by 1½ litres at each milking time. A like effect was produced when they were given a few days after a normal birth where there was diminished activity of the udder.

In three castrated cows their use was beneficial in keeping up or increasing the milk supply.

It appears that the swelling of the udder is dependent on ovarial endocrine functions and also that the secretion of milk is influenced by placental hormoues.

Auger L.—Experimental production of Milk Fever.—Comptes rendus de l'Academie des Sciences—Feb. 1, 1926.—*Rev. Gén de Méd Vét.*, Mar., 1926.

THE hypotheses given up to now on the origin of milk fever, intoxication, infection, anaphylactic shock are dubious and do not explain the very remarkable results of the Schmidt-Evers treatment.

Studies in the action of insulin prove that it provokes hypoglycæmia with convulsive and comatose symptoms. The experiments of Ch. Porcher on the elaboration of lactose show that it is produced in the liver by transformation from the glucose of the blood. If the call of the udder for glucose is considerable, hypoglycæmia is brought about with all its consequences.

The observations of Hoyas and Bru on the influence of repeated milkings after parturition may be understood; by exaggerating the demand for glucose they tend to produce hypoglycæmia. On the other hand any action capable of arresting mammary secretion (injections of liquid or gas or such like) suppresses this demand and the symptoms disappear whilst glucose is restored to the blood. In the following experience the author obtained at once the production and disappearance of milk fever under the conditions cited.

"A cow about 12 years old in good health, weighing 770 lbs., five months in calf, giving five quarts of milk, received into the auricular vein 950 clinical units (190 physiological units) of Byla insulin. One hour after injection the cow refused to get up; was somnolent; its eyes were closed. These phenomena became plainer and reached their maximum between the third and fourth hour; the head was curved to the left side resting on the litter; respiration slow and stertorous; there was pharyngeal paresis and salivation, the initial temperature 38·4 declined to 37·9. We did not wait for the symptoms to become aggravated, not wishing to sacrifice the animal and fearing for the life of the fœtus and with a view to bringing about rapid improvement we substituted a subcutaneous injection of glucose, 40 grammes, in a 20 per cent. solution, in preference to blowing up the udder with air. This brought about the disappearance of the disturbing symptoms in five minutes. At the end of this time the cow got up and began to eat; her health was quite normal during the following days. The injection of insulin had brought about the characteristic collapse of milk fever.

The experiences of Widmark and Carlens made on the cow and milch goat have shown that Evers technique causes hyperglycæmia with its usual result, glycosuria. Present investigations confirm these facts and throw light on the pathogeny of a malady that can probably be produced experimentally.

Reviews

A Synopsis of the Families and Genera of Nematoda. By H. A. Baylis, M.A., D.Sc., and R. Daubney, M.Sc., M.R.C.V.S. Pp. 277. Published by the British Museum (Natural History), London, S.W.7. 10s. 6d.

The names and qualifications of the authors are sufficient guarantee of the accuracy and painstaking nature of the work undertaken to compile this Synopsis of the Families and Genera of Nematoda; and as a work of reference this little volume of 277 pages stands forth as the latest and most up to date of its kind.

The science of helminthology plays a large part in the daily life of those whose work lies in the prevention and cure of disease amongst livestock; and for this reason this collection of anatomical details of the various nematodes, whose presence amongst our herds cause such losses to the agriculturalist, is of value not only to the veterinary student, but also to the scientific veterinary practitioner who possesses a microscope and makes constant use of it. For the laboratory worker as a book of handy reference it is invaluable, and the only regret which can be expressed in connection with its publication is that nothing is illustrated. Illustrations always help the reading of a book, but unfortunately they add very materially to its cost of production, and it is perhaps for this reason that they are absent.

The book is of handy size and the price is reasonable, two points which add to its recommendation in the eyes of the present-day student; and the index in which the synonyms are added is completely and carefully done, making it a comparatively easy matter to find whatever is sought for. It is an excellent compilation and an illustration of the value of a combination of authorship which includes the work in the laboratory and the worker in the field; a combination which might be usefully carried out in practice more often to the mutual advantage of both.

Diseases of the Dog and their Treatment. By Dr. Georg Muller and Alexander Glass. Fifth Edition, revised and enlarged. London: Baillière, Tindall & Cox. Pp. 655, 256 illustrations. Price 30s. net.

A book, particularly one on a specialised subject, which has reached a fifth edition, does not need much to recommend it; either as fulfilling a very pressing need or being of exceptional interest and value to the profession for which it is written.

The dog as a patient has come into such great prominence during the past 20 years that it was to be expected a number of text-books would be devoted to its ailments and diseases.

The first edition of "Diseases of the Dog" written by Dr. Georg Müller, professor in charge of the clinic for small animals at the Veterinary High School, Dresden, filled a long-felt want at the time when it was written, and Dr. Alexander Glass, Professor of Canine Medicine in the University

of Pennsylvania, did good service to his English-speaking brethren when he gave us his first translation. Since then the book has become larger and larger, and the collaboration of the two authors has made it a joint work, and one to which the clinical records of the British Veterinary periodicals have also been added.

From the clinician's point of view it is an admirable work and one which everybody with a large canine practice should place on his book-shelf.

The illustrations are well done and help to make the reading matter more interesting.

Its weak point is its Pathology, and this might very well be brought up to date in a larger edition by the collaboration of a specialist in this subject. The subject of anæsthesia nowadays, on humane grounds, is of such importance that in a work of this kind it should certainly receive a great deal more notice than has been given to it here.

The subject is too vast for any one man, or even two men, to undertake and to do properly. It would be well for the profession if the next edition was prepared with the collaboration of a number of our professional brethren from all countries, who have made the diseases of the dog their special study.

This book is the best we have at the present time on this particular subject, and as such, we commend it to the favourable notice of our readers.

Dr. Little's Dog Book. By GEORGE WATSON LITTLE, D.V.M. London: Chapman & Hall. Pp. 345, with illustrations. Price 16s. net.

In a well-written and interesting book of some 350 pages, Dr. Little, an American Veterinary graduate, has condensed a lot of very useful information on the subject of the feeding and general management of dogs, which is of especial service to those members of the profession who are intending to specialise in canine practice.

Written primarily for the dog owner, it contains chapters on first-aid and nursing, and these are written in a way which clearly illustrates the value to everyone of a knowledge of these things. The author gives many useful hints which, if known and taken seriously by the owner of a sick dog, are of inestimable help both to the Veterinary attendant and his patient.

Several pages are devoted to tables of dietaries from puppy days upwards, and the sick dietary suitable for various diseases is mentioned in detail.

The pages on first-aid are so worded in simple language that they can be understood by any intelligent dog-owner; and at the same time, Dr. Little has very tactfully omitted the mention of anything more than it would be wise for the owner to do whilst waiting for the arrival of a qualified Veterinary Surgeon.

As a book which anyone who is fond of dogs can pick up and read with restful interest at the end of a hard day, we can recommend Dr. Little's Dog Book to the favourable notice of the profession.

Die Operation gegen das Kehlkopfpfeifen des Pferdes nach Günther-Williams (The Günther-Williams Operation for Roaring in the Horse). By Prof. G. FORSSELL, of the Stockholm Veterinary

School. Pp. 220, 52 figs. Richard Schoetz, 10, Wilhelmstrasse, Berlin. Price 10.50 gold marks.

This is a useful little work on the roaring operation. It gives an account of the anatomy and physiology of the larynx, relates the conditions which produce roaring and its pathogeny, and dilates on the value of the Williams operation and the results achieved.

The seventh section of the book deals with the preparatory work for the operation and the technique. There is a description of the different methods used and their variations. The author uses 10 to 25 grammes of chloral hydrate in 7 per cent. solution intravenously to produce narcosis, and continues if necessary with chloroform; locally cocaineadrenalin is employed in every case. The danger of tearing the recurrent nerve by overstretching of the joint is mentioned. For the last five years the larynx has been opened through the cricothyroid ligament and the cricoid cartilage has been preserved intact. Complications that have arisen in quite a minor number of cases have been chondritis, ossification, œdema of the larynx and excessive granulation tissue formation.

The monograph is very instructively illustrated, and the author has gained a prominent place among those who have studied the larynx of the horse and its surgery.

Conformation and Appointments of the Horse. By Major R. S. Timmis, D.S.O. London: Foster Groom & Co. Pp. 137. Price 2s.

This little book is one of the "Modern Horse Series," and is intended for horse-owners, stablemen, drivers, and horse-lovers. Although not of sufficient technical value to recommend it to the qualified Veterinary surgeon, there are many little points which are of interest to the junior Veterinary student, who will find it useful as a brief compendium on certain points connected with conformation, and types of breeds. Its price makes it readily accessible, and we can recommend it as worthy of perusal for the student of the first year's course of study.

Tierheilkunde und Tierzucht. An Encyclopædia of Knowledge about the Domesticated Animals, with collaboration of numerous experts. Edited by Dr. V. Stang and Dr. D. Wirth. Vol. I, *Ab-Au*, pp. 778, with 382 figs. in text and 3 coloured plates. Urban & Schwarzenburg, Berlin, N.24 and Vienna, I. 1926. 3 marks.

This is the first volume of what promises to be an excellent Encyclopædia of Veterinary Science and Zootechny. It deals with subjects as wide apart as the different breeds of European animals, abortion, and poisonous plants. The collaborators number 127 and comprise German, Italian, Austrian, Greek, North American, Dutch, Bulgarian, Spanish and Swiss veterinary surgeons and other scientists. The net, to catch reliable and interesting information, is thrown wide, and the subject matter of the book, as a result, is exceptional and remarkable. The subjects are dealt with and spaced according to their degree of importance, and this seems to have been well accomplished. The illustrations in the volume are a strong feature of the work and most of them have the advantage of being fresh and original and designed to help out the text in interesting and instructing the reader. The "get-up" and printing of the volume are very good, and if the editors live to complete the volumes

(they are not out of the *A's* yet) they will have established a piece of work which will be a corner stone of knowledge for all veterinary surgeons, and one which will stand out prominently in the veterinary literature of the twentieth century.

Household Horrors. By A. Moore Hogarth, F.E.S., Chairman of the College of Pestology, 52, Bedford Square, W.C.1.

In a small brochure which consists of a number of fully illustrated publications bound together in one cover, all of which have previously appeared in "Good Housekeeping," Mr. A. Moore Hogarth, F.E.S., has written in very clear language the life-history of common "Household Horrors" with the best and cheapest methods by which they can be destroyed.

These include the cockroach, the common house-fly, the bug, the flea, the red spider and mite, the wood worm, the mosquito, the rat, and a number of others.

It is a fascinating and interesting little mine of information which should find a place on every Veterinary Surgeon's consulting room table.

Die Physiologie und Pathologie der Vormagen beim Rinde (The Physiology and Pathology of the Rumen, Reticulum and Omasum of the Ox). By Prof. J. Wester, of the University of Utrecht. Pp. 110, with 66 figs. Richard Schoetz, Berlin. Price 7·20 gold marks.

The Professor gives an account of several experimental studies on the physiological functions of the fore-stomachs of the ox. Methods of clinical examination of the chemical and motor functions of the stomachs are interesting and lucidly described. The effect of drugs as regards their potency in digestive disturbances is discussed, and their various degrees of effectiveness tabulated. The pathology of indigestions, traumatic inflammation of the reticulum, and tympanitis has several pages of explanation and elucidation. The monograph is of especial interest to practitioners among cattle and advances the knowledge of the physiology and pathology of the fore-stomachs in cattle.

Woodruff, Capt. F. H. (Veterinary Corps, U.S. Army).—Thymol in the Treatment of Ringworm.—*Veterinary Bulletin, U.S. Army*, July 14th, 1926.

Five per cent. alcoholic solution of thymol was at least equal in fungicidal power to tincture of iodine.

This agent is preferable to tincture of iodine in treatment of ringworm for the reason that little or no damage to the tissues themselves result from its use, thus insuring prompt hairing over of the denuded areas.

However, there enters into the subject of treating this condition with thymol and its comparison with other agents the physical

properties of thymol itself. Solutions as weak as that used (five per cent.) when warmed give off the odour of thyme, pleasant in itself, but sweetish and aromatic. Animals to which it had been applied were left in a warm stable for several minutes only, but at the end of that time the pleasant odour of thyme could be detected. The possibility of this odour as an attraction for flies during warm weather must therefore not be overlooked. The fact that solutions are colourless and do not stain the hair make its use where large numbers of animals are affected of great advantage. Especially is this true where, as in the case of this station, greys and other light coloured animals are found in considerable numbers.

Notices

R.A.V.C. OLD COMRADES' ASSOCIATION ANNUAL DINNER.

THE Annual R.A.V.C. Old Comrades' Association Re-Union Dinner will be held at Anderton's Hotel, Fleet Street, at 7 o'clock p.m. on the 22nd October. Tickets, 5s. 6d. each, from Hon. Sec., R.A.V.C. Records Office, Woolwich.

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AN enquiry is being pursued into the epidemiology of cancer in man and animals.

Dr. E. L. Sambon, M.D., 102, Fordwych Road, Brondesbury, London, N.W., will be obliged if members of the veterinary profession will send him any cases of malignant tumour associated with the above.

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